

AN INTRODUCTION TO PERMACULTURE

WHAT IS PERMACULTURE?

"Permaculture is the conscious design and maintenance of agriculturally productive ecosystems which have the diversity, stability and resilience of natural ecosystems. It is the harmonious integration of landscape and people providing their food energy, shelter and other material needs in a sustainable way. Permaculture design is a system of assembling conceptual, material and strategic components in a pattern which functions to benefit life in all its forms."

Bill Mollison

"The philosophy behind Permaculture is one of working with, rather than against nature, of looking at systems in all their functions, rather than just asking one yield of them, and of allowing systems to demonstrate their own evolutions."

David Holmgren

ETHICS

Earth Care

'Provision for all life systems to Continue and multiply.' B.M.

People Care

'Provision for people to access those resources necessary For their existence.' B.M.

Fair Shares

Govern our own needs and share surpluses.

ATTITUDINAL PRINCIPLES

Everything Gardens: We all have an impact on our environment, 'everything makes its own garden...people build houses, dispose of sewage, dig up soils for gardens, and maintain annual vegetable patches.' Bill Mollison (B.M.)

Work with nature, rather than against it: 'We can assist rather than impede natural elements, forces, pressures, processes, agencies, and evolutions.' Bill Mollison

'Natural ecosystems can be very productive, and they don't need all the inputs of fossil fuels and other materials that are needed to support our present day agriculture, industry and infrastructure, nor do they emit any pollution. Permaculture seeks to create systems which have all the desirable characteristics of natural ecosystems but which provide for human needs.' Patrick Whitefield

'If we throw nature out of the window, she comes back in the door with a pitchfork.' Masanoba Fukuoka

The problem is the solution: 'Everything works both ways. It is only how we see things that makes them advantageous or not.' Bill Mollison

Make the least possible change for the greatest possible effect:

The yield of the system is theoretically unlimited: 'The only limit on the number of uses of a resource possible within a system is in the limit of the information and the imagination of the designer.' Bill Mollison

DESIGN

'Permaculture contains principles of design that have evolved, been tried and tested to produce a design system for sustainability. The principles can be used to design agricultural systems, build houses, create communities, improve businesses and design woodlands. Any well designed Permaculture system will be ecologically sound and economically viable and will minimise inputs and recycle all potential wastes into the system. The design is applied common sense.' Ben Law

'Permaculture design is a system of assembling conceptual, material, and strategic components in a pattern which functions to benefit life in all its forms. It seeks to provide a sustainable and secure place for living things on this earth.' Bill Mollison

SURVEY, ASSESS, DESIGN, IMPLEMENT, MAINTAIN

You will find many different models describing the design process, this is not unique to Permaculture, in fact those used in public and private sector management will do fine, so here is one from a project management course, INITIATION, SPECIFICATION, DESIGN, BUILD, INSTALLATION/IMPLEMENTATION, OPERATION and REVIEW.

The important factor in Permaculture design is the ethical building blocks of EARTH CARE, PEOPLE CARE and FAIR SHARES, and the ATTITUDINAL and DESIGN PRINCIPLES. Permaculture design should be open to all, and we are encouraged to use our available skills to achieve this.

SURVEY

OBSERVATION If we use our senses, we can feel the direction of wind, see the seasonal changes in the environment, view the actions of those around us, know our own habits, skills, and needs. This is good data which we can record before looking for patterns and links that will enable us to build up a picture of what needs to be done, or left alone. You could go a stage further and take measurements to build up a statistical SURVEY of the places and systems you are observing.

ASSESS

Once we have gathered all the information from our observations we need to find way to sort it so it begins to make sense. This is the stage to look for PATTERNS, and LINKS. What RESOURCES do we have available, what are the INPUTS and OUTPUTS of the system?

DESIGN The fun bit where everything comes together. Try to experiment with different methods of design, make drawings, models, get some friends together and act it out, be creative that is when the best ideas occur.

IMPLEMENT Make your designs reality. Be realistic, it might be an amazing design but taking it a step at a time might be the wisest approach.

MAINTAIN This really means going back to the start, no sooner does a design become reality does it need re-designing, once again OBSERVATION is the best tool.

WORK WITH NATURE RATHER THAN AGAINST IT

Try to avoid a linear (straight line) approach to your design, nature works cyclically (circular), seasons, patterns, birth/death, ebb and flow. This is how to view a Permaculture design, ever evolving and changing, and that means YOU as well!

DESIGN DIRECTIVES/PRINCIPLES

There are many Permaculture design principles, and it can sometimes become confusing when different ones pop up in books and literature. The ones we are interested in are found in the areas of ENERGY PLANNING, RESOURCES, and DESIGN FEATURES. Their root can often be found in the ATTITUDINAL PRINCIPLES. Don't be surprised if you start finding ones of your own, remember to make a note of them they may come in useful.

ENERGY PLANNING

ZONES: Zones describe areas of human activity and the frequency of use within. Recently designers have spoken of ZONE 00, which describes our inner self or life patterns, an area that is subject to change and development as much as any physical location.

Zone 0: This usually refers to a home, dwelling or main centre of activity.

Zone 1: The area nearest the centre of activity, in garden terms this could be those vegetable beds most frequently visited.

Zone 2: This area has occasional visits, large compost or re-cycling bins, perennial plants, fruit bushes.

Zone 3: Areas only visited about once a week, or slightly longer.

Zone 4: A semi-wild area, infrequently visited, possible seasonally or longer.

Zone 5: Wilderness, no human activity apart from very rare occasions, a place for nature to flourish and follow its own natural cycles.

ASPECT: The position a building, or piece of land faces, and thus the importance of its location to the energies that affect it. SLOPE and ELEVATION can also be evaluated when considering ASPECT.

A south facing slope or building will receive a larger degree of light than one north facing and may be an important factor in planning where to place certain plants or how to use natural energies to heat a home.

SECTOR: We often need to consider areas at different seasons or in separate parts, a frost pocket will only occur at certain times of the year yet it may be important when designing where the trees are to be placed in an orchard. By SECTOR analysis we can build up a picture across the seasons of where and when natural energies occur. It is important to find patterns and not just seasonal anomalies, a structure such as a wind powered generator needs to be placed for maximum return.

RESOURCES

BIOLOGICAL: Soil, plants, animals, all the natural resources that we can link up and use sustainably. A coppiced woodland provides a SUCCESSION of plants and animals and can actually extend the life of certain trees such as ash and oak.

CYCLING and RE-CYCLING: Not just taking the bottles to the bottle bank but cycling energy through a system. Sun heats a conservatory window that ripens tomatoes and heats water containers that are filled with rain water, to water the tomatoes, while during the evening the water containers release heat collected in the day to maintain a comfortable temperature within the conservatory which has been heating the house it is attached to.

FUNCTIONS / ELEMENTS: Finding out the many functions a natural or manufactured item has.

An example of making use of all of these resources can be found in a reed bed system. Sewage is contained in a settling tank before being led into another tank where micro organisms begin breaking down the sewage assisted by the root systems of varieties of reed such as yellow flag and reed mace, further tanks containing gravel and reeds are used until a pond area is reached where fish complete the stage of filtration. Thus sewage and grey water returns to pure water. By understanding the functions and elements of plants animals and minerals, a cycle based on biological resources can turn a PROBLEM INTO A SOLUTION.

DESIGN FEATURES

RELATIVE LOCATION: Consider where best to place things within a design. Wherever possible use existing resources and think about the impact of whatever it is you would like to place there. Should the herb and salad beds be a 100 metres down the path, or just outside the back door?

MICROCLIMATE: After observing the different sectors within your design you may find the western edge of the pond has a microclimate of its own and is thus suitable to plants that would not thrive on any other part of the site. Places in valleys or next to large bodies of water often have significant microclimates.

MAXIMISE EDGE: Edges can be described as boundaries or places of accumulation, in the natural world these are often areas where species occur that are not prevalent on either side of the particular boundary. Road sides, pond edges and even borders of countries are good examples of these. Therefore it is good to plan plenty of edge within a design.

SUCCESSION: Natural systems are never static there is always cyclical movement. Plants and animals have a cycle of reproduction which affects their appearance, behaviour, prevalence, this can sometimes result in some species giving way to another as a system changes. A grazed field after the stock have been removed will move from meadow to scrub, to shrub, to bush to tree, and high forest with elements of its former history only occurring at its edges.

DIVERSITY: We will never fully understand our natural world due to the complexity of systems that support each other from the countless millions of micro organisms to the largest plants and animals, add to this the many chemical interactions coupled with climatic influences and the even more mysterious force of the planets. All this before we start considering the wider universe, and yet one common theme is diversity. Our monoculture world always teeters on the edge simply by relying on one source rather than many. Diversity is crucial to any design.

PATTERN: Seasons, cycles, habits, natural shapes and forms, they all come under patterns. We often speak of beauty in nature and we should always seek beauty in our designs, pleasant forms and shapes are easy on the eye and good for the soul. We should be aware of our own patterns, moods, menstrual cycles, highs and lows of energy, these are as relevant to our designs as are the physical features. Become familiar with the patterns of nature, a good question to ask yourself is 'what is the phase of the moon just now', not sure, maybe it is time for some observation.

SOME OTHER CONSIDERATIONS

TIME: Time has many contexts, and can have different meanings to different people, "Now" is the period in which people feel they live and act and have responsibility. For most of us, "now" is about a week, sometimes a year. For some traditional tribes in the American northeast and Australia, "now" is seven generations back and forward (350 years).¹ Stewart Brand
Try writing the date 2010 as 02010 and see what difference it makes to the scale of things.

CO-OPERATION: 'Co-operation, not competition, is the very basis of existing life systems and of future survival.'² Bill Mollison

To create flow and maintain cycles we have to avoid blockages, these occur when things become in opposition. None of us can truly predict outcomes, there is always an element of uncertainty, yet by adding what we have to the next persons might bring a solution or desired outcome quicker than by holding back.

SMALL ACHIEVABLE STEPS: All this Permaculture design can get a bit overwhelming, so don't take on too much at one time. Reducing one car journey a week makes a reduction of 52 journeys a year, it might not sound much, but if every driver in the UK did this think of the impact.
Sustainable Designs 2010 www.willowcraftdesigns.co.uk enquiries@sustainabledesigncrafts.co.uk

